

National Aeronautics and  
Space Administration  
  
Lyndon B. Johnson Space Center  
**White Sands Test Facility**  
P.O. Box 20  
Las Cruces, NM 88004-0020



July 12, 2023

Reply to Attn of: RE-23-125

Mr. Ricardo Maestas, Acting Bureau Chief  
New Mexico Environment Department  
Hazardous Waste Bureau  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505

Subject: NASA White Sands Test Facility (WSTF) Quarterly Environmental Activity Report  
for Second Quarter 2023

Enclosed is the NASA White Sands Test Facility (WSTF) Quarterly Environmental Activity Report for Second Quarter 2023. This reporting format includes an Executive Summary that provides important events/observations as Enclosure 1, a paper copy of the report as Enclosure 2, and a CD-ROM with the report in PDF as Enclosure 3.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

If you have any questions or comments concerning this submittal, please contact Amanda Skarsgard of my staff at 575-571-9668.

**AMANDA**  
**SKARSGARD**

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For: Timothy J. Davis  
Chief, Environmental Office

3 Enclosures

cc:

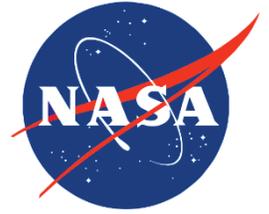
Mr. Gabriel Acevedo  
Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive East, Building 1  
Santa Fe, NM 87505

## **Executive Summary**

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- The following summarizes important information associated with NASA White Sands Test Facility (WSTF) environmental program activities in the second quarter (April – June) of 2023:
- This Environmental Activity Report is now provided to NMED on a quarterly basis in accordance with Section 1.15 of NASA’s RCRA Permit. Information from April 2023 is included in this quarterly report, which duplicates the information provided in NASA’s April 2023 Monthly Environmental Activity Report.
- NASA completed shipments of hazardous and medical waste and wastewater sludge in April 2023; hazardous waste, used oil, used oil filters, used antifreeze, scrap metal, and yard waste in May 2023; and hazardous and universal waste in June 2023.
- NASA sampled 41 of 41 groundwater monitoring wells scheduled for April 2023, 34 of 34 wells scheduled for May 2023, and 31 of 31 wells scheduled for June 2023. NASA scheduled 33 groundwater monitoring wells for sampling in July 2023.
- Both groundwater remediation systems were shut down for most of the second quarter 2023 to accommodate well repair work at the PFTS. NASA restarted the remediation systems in June 2023 and operated the MPITS and PFTS for 22 and seven of 30 days, respectively.
- NASA addressed NMED’s comments on the 200/600 Area vapor intrusion report and provided a revised report for NMED review.
- NASA received NMED feedback on three documents related to the 300 and 400 Areas and began developing the required responses to NMED comments.
- NASA continued extraction of perched groundwater at monitoring well 600-G-138 and submitted the interim status report for project year 10.
- NASA continued addressing NMED comments in their disapprovals of all four wastewater lagoon investigation reports.
- NASA addressed NMED comments in the approval with modifications of the accelerated corrective measures work plan for SWMU 16 and provided a revised work plan.
- NASA addressed NMED comments in the approval with modifications of the investigation report for SWMUs 21-27 and provided a revised report.
- NASA addressed NMED comments in the approval with modifications of the investigation work plan for SWMU 47 and provided a revised work plan.
- NASA continued project planning for several additional monitoring well projects.
- NASA prepared and submitted a work plan for Phase 2 of the Targeted Mobile Remediation Process (TMRP) and an abbreviated investigation report for a release of groundwater to the surface at well ST-1-541.
- NASA continued project planning and coordination for additional PFAS assessment fieldwork scheduled for July 2023.
- NASA submitted 34 documents to the NMED Hazardous Waste Bureau in the second quarter of 2023.
- There were no reportable non-compliance issues in April, May, or June 2023.

National Aeronautics and Space Administration



Quarterly Environmental Activity Report  
Second Quarter 2023  
NM8800019434

Report Deadline: July 15, 2023

NASA Johnson Space Center White Sands Test Facility  
Quarterly Environmental Activity Report

Second Quarter 2023

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**AMANDA  
SKARSGARD**

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See Electronic Signature

For: Timothy J. Davis  
Chief, Environmental Office

Date

National Aeronautics and Space Administration

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Las Cruces, NM 88012  
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- NASA continued project planning and coordination for additional PFAS assessment fieldwork scheduled for July 2023.
- NASA submitted 34 documents to the NMED Hazardous Waste Bureau in the second quarter of 2023.
- There were no reportable non-compliance issues in April, May, or June 2023.

**1.0 Waste Management Activities**

1.1 NASA completed the following waste shipments in the second quarter of 2023.

<b>Date</b>	<b>Shipped To</b>	<b>Type of Waste</b>	<b>No. of Containers</b>	<b>Amount of Waste</b>	<b>Disposition</b>
4/17/23	Stericycle, Albuquerque, NM	Medical	1	3.7 ft <sup>3</sup>	Autoclave
4/19/23	Veolia, Henderson, CO	Hazardous	13	221 kg	Incineration
4/19/23	US Ecology, Beatty, NV	Hazardous	8	1142 kg	Macroencapsulation, Solidification, or Off-site Management
4/20/23	Corralitos Landfill, Las Cruces, NM	Non-Hazardous (Wastewater Sludge)	1	40 yd <sup>3</sup>	Landfill
4/27/23	Corralitos Landfill, Las Cruces, NM	Non-Hazardous (Wastewater Sludge)	1	40 yd <sup>3</sup>	Landfill
5/9/23	Corralitos Landfill, Las Cruces, NM	Non-Hazardous (Yard Waste)	1	40 yd <sup>3</sup>	Landfill
5/9/23	W. Silver, Santa Teresa, NM	Non-Hazardous (Scrap Metal)	1	40 yd <sup>3</sup>	Recycle
5/11/23	Thermo Fluids, El Paso, TX	Used Oil	21	3,920 kg	Recycle
5/11/23	Mesa Environmental, Belen, NM	Used Oil Filters	2	153 kg	Recycle
5/11/23	Mesa Environmental, Belen, NM	Used Antifreeze	3	22 kg	Recycle
5/17/23	Corralitos Landfill, Las Cruces, NM	Non-Hazardous (Yard Waste)	1	40 yd <sup>3</sup>	Landfill
5/18/23	Veolia, Henderson, CO	Used Oil Filters	2	86 kg	Recycle
5/18/23	Veolia, Henderson, CO	Hazardous	7	107 kg	Incineration
5/18/23	Veolia, Henderson, CO	Hazardous	2	393 kg	Incineration

**NASA White Sands Test Facility**

<b>Date</b>	<b>Shipped To</b>	<b>Type of Waste</b>	<b>No. of Containers</b>	<b>Amount of Waste</b>	<b>Disposition</b>
5/18/23	US Ecology, Beatty, NV	Hazardous	6	633 kg	Macroencapsulation, Solidification, or Off-site Management
6/27/23	Veolia, Henderson, CO	Hazardous	5	14 kg	Incineration
6/27/23	Veolia, Henderson, CO	Hazardous	5	31 kg	Incineration
6/27/23	Veolia, Henderson, CO	Universal	7	67 kg	Mercury Recovery/Recycle

**2.0 Environmental Monitoring**

2.1 NASA performed sampling at 41 of 41 groundwater monitoring wells or zones scheduled for sampling in April 2023, 34 of 34 wells or zones in May 2023, and 31 of 31 wells or zones in June 2023 in accordance with the approved Groundwater Monitoring Plan (GMP). This includes sampling of NASA 3 in April 2023, which was postponed in February 2023 because of a sampling system failure. NASA replaced the sampling system and performed required sampling. Previous deviations from the planned sampling schedule are described below and have been reported to NMED in previous monthly reports:

- Wells 600A-001-GW and 600A-002-GW (scheduled for sampling in November 2022) were not sampled because of equipment failure. NASA obtained replacement sampling equipment in December 2022 for use in January 2023. Upon further evaluation, NASA determined that previous development of these wells using on-site equipment after colloidal borescope tests may have been inadequate. NASA is working to acquire the services of an off-site subcontractor to perform additional development at these wells prior to sampling. NASA will continue providing updates on well development progress in future monthly reports.
- NASA could not sample well PL-7-480 in August 2022, because the Westbay zone did not produce water. NASA believes the water level at this location has dropped below this sample port and will monitor the water level during future planned sampling events.
- Wells BLM-1-435 (scheduled for sampling in April 2021) and PL-3-453 (scheduled for sampling in December 2020) have not been sampled, because the water levels are not sufficient for sampling. NMED approved NASA’s recommendation to plug and abandon these wells. NASA is planning the abandonment and replacement of wells BLM-1-435 and PL-3-453.

2.2 NASA performed other regulatory groundwater sampling requirements as scheduled and as allowed by operational status. NASA did not sample wells PFE-1, PFE-3, and MPE-8 during the quarter because they were not operational due to equipment failure. NASA was unable to sample groundwater remediation system influent and effluent, and wells PFE-4A, PFE-5, and PFE-7 because the PFTS was not operational during April and May 2023. NASA resolved many of these equipment issues and performed sampling in June 2023. Some equipment issues continue and NASA will provide updates in future reports.

2.3 NASA developed the July 2023 groundwater sampling schedule and plans to sample 33

**NASA White Sands Test Facility**

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groundwater monitoring wells or zones based on GMP requirements.

**3.0 Corrective Actions/Investigations**

3.1 Mid-plume Interception and Treatment System Operations

Month	Days Operated	Average Flow Rate (gpm)	Volume Extracted and Treated (acre-feet)	Volume of Groundwater Discharged to Infiltration Basin (acre-feet)	Volume of IDW Treated and Discharged to the Infiltration Basin (gallons)
April 2023	0 of 30	0	0.0	0.0	0.0
May 2023	0 of 31	0	0.0	0.0	0.0
June 2023	22 of 30	5.3	0.68	0.64	10,032

Shutdown Date	Restart Date	Shutdown Status	Discussion
3/23/23	6/5/23	Planned	NASA shut the system down to accommodate well repair and rehabilitation activities at the PFTS.
6/11/23	6/12/23	Unplanned	The system shut down automatically because of a failed UV transmissivity lamp.
6/15/23	6/20/23	Planned	NASA shut the system down to allow groundwater to recover in the MPCA.

3.2 Plume Front Treatment System Operations

Month	Days Operated	Average Flow Rate (gpm)	Volume Extracted and Treated (acre-feet)	Volume Injected (acre-feet)	Volume Discharged to Grade (acre-feet)	Volume Discharged to Modu-Tank (acre-feet)
April 2023	0 of 30	0	0.0	0.0	0.0	0.0
May 2023	0 of 31	0	0.0	0.0	0.0	0.0
June 2023	7 of 30	54	8.22	7.23	0.23	0.76

Shutdown Date	Restart Date	Shutdown Status	Discussion
3/27/23	6/15/23	Planned	NASA shut the system down to perform well repair and rehabilitation activities at PFE-1, PFE-2, PFE-3, PFE-7, PFI-2, and PFI-4.
6/16/23	6/26/23	Planned	NASA shut the system down to accommodate replacement of pole-mounted electrical transformers at well PFE-1 and PFE-7.

### 3.3 200 Area Investigation

- NASA addressed NMED’s three multipart comments in their September 20, 2022 disapproval of the *NMED Disapproval Response for 200 Area and 600 Area Vapor Intrusion Assessment Report* (January 30, 2020) and provided a revised report for NMED review on April 27, 2023.
- NMED is reviewing the 2023 WSTF Soil Vapor Risk Based Concentration Memorandum (January 26, 2023).

### 3.4 300/400 Area

- NMED approved the *Response to Disapproval of 300 Area Supplemental Abbreviated Drilling Work Plan* and NASA began project planning activities.
- NMED approved the revised *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* with modifications on May 2, 2023. NASA is addressing three NMED comments and preparing a revised monitoring plan for submittal by July 31, 2023.
- NMED approved the third revision of the *NASA WSTF 400 Area Closure Investigation Report* with modifications on May 2, 2023. NASA is addressing three NMED comments and preparing a revised report for submittal by July 31, 2023.

### 3.5 600 Area Perched Groundwater Extraction Pilot Test and Investigation

- In April, May, and June 2023, NASA extracted approximately 98, 156, and 130 gallons of perched groundwater, respectively, from monitoring well 600-G-138 in accordance with NMED’s March 1, 2013, *Approval Time Extension for Implementation of the Perched Groundwater Extraction Pilot Test at the 600 Area*. Groundwater elevation measurements indicate there is approximately 3.18 feet of perched groundwater within this well. This perched groundwater thickness has been relatively consistent since the inception of extraction activities in 2013. Extracted groundwater was containerized for treatment at the Mid-plume Interception and Treatment System (MPITS) and discharged in accordance with DP-1255.
- NASA completed and submitted the *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report – Project Year 10* on April 19, 2023.
- NMED approved the *600 Area Perched Groundwater Investigation Report* (June 29, 2022) with modifications on June 29, 2023. NMED directed NASA to address five comments and submit a revised report no later than August 31, 2023. NMED also directed NASA to develop a work plan for additional investigation of perched groundwater in the 600 Area and submit it for NMED review no later than November 30, 2023.

### 3.6 SWMUs 2, 8, and 34 and AOC 51 (Wastewater Lagoons)

- NASA completed the additional fieldwork necessary to generate data required to address NMED comments in their disapprovals of the *NASA White Sands Test Facility (WSTF) 200 Area Wastewater Lagoons Closure (SWMU 8) Investigation Report* (November 25, 2019) on June 6, 2022, the *NASA White Sands Test Facility (WSTF) 600 Area Wastewater Lagoons Closure (SWMU 34) Investigation Report* (November 26, 2019) on June 16, 2022, the *NASA White Sands Test Facility (WSTF) 100 Area Wastewater Lagoons Closure (SWMU 2) Investigation Report* (August 3, 2020) on July 5, 2022, and the *NASA White Sands Test Facility (WSTF) STGT Wastewater Lagoons Closure (AOC 51) Investigation Report* (October 13, 2020) on July 25, 2022.
- NASA continued reviewing chemical analytical data in preparation for revising the disapproved investigation reports. The contracted analytical laboratories provided all remaining chemical data in June 2023.

- 3.7 SWMU 10 (200 Area Hazardous Waste Transmission Lines [HWTL])
- NMED is reviewing the *Response to Second Disapproval of NASA WSTF 200 Area HWTL (SWMU 10) Investigation Report and Risk Assessment Report* (March 4, 2022).
- 3.8 SWMU 16 (600 Area BLM Off-site Soil Pile)
- NMED approved the *Accelerated Corrective Measures Work Plan for the NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile)* (September 28, 2021) with modifications on February 10, 2023. NASA addressed NMED's two comments, revised the work plan, and submitted it to NMED on May 22, 2023.
  - In June 2023, NASA began planning for accelerated corrective measures fieldwork.
- 3.9 SWMUs 21-27 (Septic Tanks)
- NMED approved the revised NASA White Sands Test Facility (WSTF) Septic Tanks (SWMUs 21-27) Investigation Report (May 18, 2021) on March 16, 2023. NASA addressed two NMED comments, revised the report, and submitted the *Response to Approval with Modifications Revised WSTF Septic Tanks (SWMUs 21-27) Investigation Report* on June 15, 2023. No additional work is planned at these units pending a complete evaluation of their suitability for corrective action complete status determination.
- 3.10 SWMUs 29-31 (Small Arms Firing Ranges)
- NMED approved the *Response to Second Disapproval Small Arms Firing Ranges (SWMUs 29-31) Remedy Completion Report and Risk Assessment Report* (August 3, 2020). No additional work is planned at these units pending a complete evaluation of their suitability for corrective action complete status determination.
- 3.11 SWMU 33 (Test Stand 302 Cooling Water Pond)
- NMED is reviewing the *Response to Disapproval of NASA WSTF 300 Area Test Stand 302 Cooling Water Pond (SWMU 33) Investigation Work Plan (IWP) and Historical Information Summary (HIS)* (September 14, 2022).
- 3.12 SWMU 47 (500 Area Fuel Storage)
- NMED approved the revised *Response to Second Disapproval of 500 Area Fuel Storage (SWMU 47) Investigation Work Plan* (June 29, 2021) with modifications on March 1, 2023. NASA addressed NMED's three comments, revised the work plan, and submitted the *Response to Approval with Modifications 500 Area Fuel Storage (SWMU 47) Investigation Work Plan: Phase I* on May 22, 2023.
  - NASA began evaluating the project site and coordinating with several stakeholders prior to planning investigation fieldwork.
- 3.13 SWMU 49 (700 Area Landfill)
- NASA began development of the Phase 2 landfill investigation work plan in accordance with NMED's February 10, 2023 approval of the *NASA White Sands Test Facility (WSTF) 700 Area Landfill Closure (SWMU 49) Phase I Investigation Report*. The work plan is due to NMED no later than October 31, 2023.
- 3.14 SWMU 54 (500 Area Former Oxidizer Burner)
- NMED is reviewing the *NASA White Sands Test Facility (WSTF) 500 Area Former Oxidizer Burner (FOB) Investigation Work Plan (IWP) and Historical Information Summary (HIS)* (August 25, 2022).

3.15 Groundwater Monitoring Well Abandonment, Installation, and Reconfiguration

- NMED is reviewing the *NASA WSTF Westbay Well Reconfiguration Work Plan for Wells PL-7, PL-8, PL-10, ST-5, and WW-3* (April 29, 2021).
- NMED is reviewing the Abandonment Report for PFE-4 and PFE-6 (March 9, 2023), the *Abandonment Report for NASA Well BLM-28* (March 14, 2023), the *Reconfiguration Report for NASA Well BW-4* (March 21, 2023), the *Reconfiguration Report for NASA Wells 200-SG-2 and 200-SG-3* (March 21, 2023), and the *Abandonment Report for NASA Wells 400-C-118, 400-KV-142, 400-LV-125, BLM-2-482, and NASA 8* (March 30, 2023).
- Following the abandonment of well NASA 9 in January 2023, NASA continued planning the installation of the replacement well and related abandonment and replacement report, which is due to NMED no later than September 29, 2023.
- Following the abandonment of the borehole at former well BLM-30 in January 2023, NASA continued planning the installation of the replacement well and related abandonment and replacement report.
- NASA continued planning for well installation activities in accordance with NMED's May 2022 approvals of the *NASA WSTF Work Plan for Drilling and Installation of Monitoring Well 600B-001-GW* (BLM-28 replacement; August 31, 2021) and the *Work Plan for Drilling and Installation of Monitoring Well 600C-001-GW at the NASA White Sands Test Facility (WSTF)* (deeper well adjacent to BLM-10-517; August 31, 2021).
- NASA continued planning well installation and abandonment work in accordance with NMED's October 31, 2022 approval of the *NASA WSTF Work Plan for Drilling and Installation of Monitoring Well 600C-002-GW and Abandonment of PL-6* (February 1, 2022).

3.16 Targeted Mobile Remediation Process (TMRP)

- NASA prepared and submitted the *Targeted Mobile Remediation Process Pilot Test Work Plan, Phase 2* on April 25, 2023.
- NASA prepared and submitted the *NASA White Sands Test Facility ST-1-541 Contaminated Groundwater Release Abbreviated Investigation Report* on May 16, 2023.

3.17 Groundwater Data Representativeness Evaluation

- NASA prepared and submitted the *Groundwater Data Representativeness Phase 2: Water FLUTE Well Evaluation Abbreviated Investigation Report* on April 27, 2023.

3.18 Dye Tracer Test Investigation

- NMED is reviewing the *Abbreviated Drilling Work Plan in Response to the NMED Approval with Modification of the Report on Tracer Testing in the WSTF 200/600 Areas and Mid-plume Constriction Area* (December 20, 2022).

3.19 Site-wide Geophysics Investigation

- NMED is reviewing the *Site-wide Geophysical Survey Investigation Report* (November 8, 2022).

3.20 PFAS Monitoring

- In the 2022 update of the Groundwater Monitoring Plan, NASA informed NMED of an ongoing preliminary assessment of PFAS being conducted by NASA Headquarters. The NASA

Headquarters contractor for the preliminary assessment performed groundwater sampling at WSTF in April 2022 and developed a report for NASA review. Based on the results of the preliminary assessment, NASA proposed the installation of additional monitoring wells as described in the *Response to Approval with Modifications Abbreviated Drilling Work Plan for the Installation of Monitoring Wells in the WSTF 100 and 600 Areas* (Proposed Monitor Wells for PFAS Assessment) (April 13, 2023). NMED approved the plan and NASA expects to initiate fieldwork in accordance with the plan in July 2023.

#### 4.0 Non-compliance Issues

The NASA Hazardous Waste Permit requires that other non-compliance conditions be reported to NMED. There were no instances of other non-compliance conditions during this reporting period that require notification under the Permit. The criteria for non-compliance reporting in this report (as defined by 40 CFR 270.30 (l)(10) and EPA interpretations at RCRA Faxbacks 13142 and 13686) would be any non-compliance with permit conditions that is not classified as minor recordkeeping, reporting, and similar oversights that were corrected once discovered. Additionally, there were no issues meeting the previously defined criteria (minor items immediately corrected) that were part of a repeating pattern of non-compliance.

#### 5.0 Documents Submitted

##### 5.1 Documents submitted to the Hazardous Waste Bureau in the second quarter of 2023

- *Request for Third Extension of Time for Submittal of the Completion Report for Monitoring Well BLM-30 Abandonment and Installation of Replacement Monitoring Well BLM-43*, April 12, 2023
- *Request for Extension of Time for Submittal of the Completion Report for Installation of Monitoring Well 600C-001-GW*, April 12, 2023
- *Request for Extension of Time for Submittal of the Completion Report for Installation of Monitoring Well 600B-001-GW*, April 12, 2023
- *Abbreviated Drilling Work Plan for the Installation of Monitoring Wells in the WSTF 100 and 600 Areas* (Proposed Monitor Wells for PFAS Assessment), April 13, 2023
- *NASA WSTF Periodic Monitoring Report – First Quarter 2023*, April 18, 2023
- *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report – Project Year 10*, April 19, 2023
- *Request for Second Extension of Time for NASA White Sands Test Facility (WSTF) 100 Area Wastewater Lagoons Closure (SWMU 2) Investigation Report Response to Disapproval*, April 20, 2023
- *Request for Second Extension of Time for NASA White Sands Test Facility (WSTF) Second Tracking and Data Relay Satellite Ground Terminal (STGT) Wastewater Lagoons Closure (Area of Concern [AOC] 51) Investigation Report Response to Disapproval*, April 20, 2023
- *Targeted Mobile Remediation Process Pilot Test Work Plan, Phase 2*, April 25, 2023
- *Response to Second Disapproval 200 and 600 Area Vapor Intrusion Assessment Report*, April 27, 2023
- *NASA WSTF Work Plan for Drilling and Installation of Monitoring Wells 600C-003-GW and 600C-004-GW*, April 27, 2023

- *NASA WSTF Groundwater Monitoring Plan Update for 2023*, April 27, 2023
- *Groundwater Data Representativeness Phase 2: Water FLUTE Well Evaluation Abbreviated Investigation Report*, April 27, 2023
- *Fee Assessment for the Abandonment Report for Five Wells (NMED Invoice Number HWB-NASA-23-007)*, May 9, 2023
- *Fee Assessment for the Abandonment Report for PFE-4 and PFE-6 (NMED Invoice Number HWB-NASA-23-003)*, May 11, 2023
- *Fee Assessment for Wells 200-SG-2 and 200-SG-3 Reconfiguration Report (NMED Invoice Number HWB-NASA-23-006)*, May 11, 2023
- *Fee Assessment for Well BW-4 Reconfiguration Report (NMED Invoice Number HWB-NASA-23-005)*, May 11, 2023
- *Fee Assessment for Well BLM-28 Abandonment Report (NMED Invoice Number HWB-NASA-23-004)*, May 11, 2023
- *Fee Assessment for First Quarter 2023 Periodic Monitoring Report (PMR) (NMED Invoice Number HWB-NASA-23-010)*, May 11, 2023
- *Fee Assessment for the Abbreviated Drilling Work Plan for the Installation of Monitoring Wells in the WSTF 100 and 600 Areas (NMED Invoice Number HWB-NASA-23-009)*, May 12, 2023
- *NASA White Sands Test Facility ST-1-541 Contaminated Groundwater Release Abbreviated Investigation Report*, May 16, 2023
- *Response to Approval with Modifications 500 Area Fuel Storage (SWMU 47) Investigation Work Plan: Phase I*, May 22, 2023
- *Response to Approval with Modifications of the Accelerated Corrective Measures Work Plan for the NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile)*, May 22, 2023
- *Fee Assessment for the 2023 Groundwater Monitoring Plan (NMED Invoice Number HWB-NASA-23-013)*, May 25, 2023
- *Request for Extension of Time for Submittal of the Background Groundwater Study Investigation Report*, May 25, 2023
- *Correction to Targeted Mobile Remediation Process Pilot Test Work Plan, Phase 2*, June 6, 2023
- *Response to Approval with Modifications Abbreviated Drilling Work Plan for the Installation of Monitoring Wells in the WSTF 100 and 600 Areas*, June 12, 2023
- *Fee Assessment for the 600 Area Perched Groundwater Extraction Pilot Test (PGEPT) Project Year 10 (NMED Invoice Number HWB-NASA-23-008)*, June 15, 2023
- *Response to Approval with Modifications Revised WSTF Septic Tanks (SWMUs 21-27) Investigation Report*, June 15, 2023
- *Exception Report for the 45-day Exceedance on Return of Hazardous Waste Shipping Manifests*, June 22, 2023
- *Fee Assessment for the Groundwater Data Representativeness Phase 2: Water FLUTE Well Evaluation Abbreviated Investigation Report (NMED Invoice Number HWB-NASA-23-012)*, June 26, 2023

- *Fee Assessment for Well 600C-004-GW Drilling Work Plan (NMED Invoice Number HWB-NASA-23-015)*, June 26, 2023
- *Fee Assessment for Targeted Mobile Remediation Process (TMRP) Phase 2 Pilot Test Work Plan (NMED Invoice Number HWB-NASA-23-011)*, June 26, 2023
- *Fee Assessment for the Drilling Work Plan for BLM-1-435 Replacement (NMED Invoice Number HWB-NASA-23-014)*, June 26, 2023

5.2 Pertinent documents submitted to other NMED bureaus in the second quarter of 2023

- *NASA White Sands Test Facility - FF First Quarter 2023 Disinfectant Residual Monitoring Report to the Drinking Water Bureau*, April 3, 2023
- *Response to Request for Further Documentation – NASA JSC White Sands Test Facility- FF, NM3590607, NASA – Well J2 Project Re-disinfection to the Drinking Water Bureau*, April 4, 2023
- *RE-344 - Quarterly Opacity/Emissions Evaluation for Firing Range Generator and Boilers to the Air Quality Bureau*, April 3, 2023
- *Final Comments and Withdrawal of Request for Public Hearing for Discharge Permit (DP)-1255 to the Groundwater Quality Bureau*, May 8, 2023
- *NASA White Sands Test Facility 700 Area Landfill Detection Monitoring Results for 2023 First Semi-annual Sampling Event to the Solid Waste Bureau*, June 7, 2023
- *Ground Water, PRD20160001, 341 – Discharge Renewal Fee (NMED Invoice ID 155064) to the Ground Water Quality Bureau*, June 14, 2023
- *NASA White Sands Test Facility Discharge Permit DP-697 Quarterly Analytical Results – Second Quarter 2023 to the Ground Water Pollution Prevention Section*, June 20, 2023
- *Fiscal Year 2024 Petroleum Storage Tank Registration Fees for the NASA White Sands Test Facility – Owner ID 14245 to the Petroleum Storage Tank Bureau*, June 20, 2023
- *RE-344 - Opacity Observation Report (LASS Diesels and FR Generator for 2Q23) to the Air Quality Bureau*, June 21, 2023
- *NASA White Sands Test Facility - FF Second Quarter 2023 Disinfectant Residual Monitoring Report to the Drinking Water Bureau*, June 26, 2023
- *Requested information on Class A, B, and C Operator Designees and Tank Status, NASA White Sands Test Facility (WSTF) – PST Owner ID 14245 to the Petroleum Storage Tank Bureau*, June 27, 2023
- *NASA White Sands Test Facility (WSTF) Written Release Notification to the Ground Water Quality Bureau*, June 29, 2023

5.3 Status of documents previously submitted to the NMED Hazardous Waste Bureau for which additional correspondence was recorded in the second quarter of 2023

- NASA submitted the *Response to Disapproval of 400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* and the *Response to Disapproval of 300 Area Supplemental Abbreviated Drilling Work Plan* on July 14, 2021. NASA submitted the *NASA WSTF 400 Area Closure Investigation Report – NMED Third Disapproval Response* on July 27, 2021. NASA received NMED's September 8, 2021 fee assessment and invoice for review of the revised report and provided the \$9,000 review fee on September 28, 2021. NMED approved the *Approval with Modifications 400 Area Closure Investigation Report - Revision 3* on May 2,

2023. NMED directed NASA to address three NMED comments and submit a revised report no later than July 31, 2023. NMED approved the *400 Area Supplemental Groundwater and Soil Vapor Monitoring Plan* on May 2, 2023 with modifications. NMED directed NASA to address three NMED comments and submit a revised report no later than July 31, 2023. NMED approved the *300 Area Supplemental Abbreviated Drilling Work Plan* on May 2, 2023 and directed NASA to submit a well completion report no later than April 30, 2024.

- NASA submitted the *Response to Second Disapproval of NASA White Sands Test Facility (WSTF) Septic Tanks (SWMUs 21-27) Investigation Report* on May 18, 2021. NMED approved the revised report with modifications on March 16, 2023 and directed NASA to address two additional NMED comments and provide a revised report no later than June 16, 2023. NASA submitted the *Response to Approval with Modifications Revised WSTF Septic Tanks (SWMUs 21-27) Investigation Report* on June 15, 2023.
- NASA submitted the *NMED Disapproval Response for 200 Area and 600 Area Vapor Intrusion Assessment Report* on January 30, 2020. NMED disapproved the report on September 20, 2022 and directed NASA to address three multipart comments and submit a revised report no later than April 28, 2023. NASA submitted the *Response to Second Disapproval 200 and 600 Area Vapor Intrusion Assessment Report* on April 27, 2023.
- NASA submitted the *Response to Second Disapproval of 500 Area Fuel Storage (SWMU 47) Investigation Work Plan* on June 29, 2021. NMED approved the revised work plan with modifications on March 1, 2023 and directed NASA to address three NMED comments and submit a revised work plan no later than May 31, 2023. NMED also directed NASA to perform the first phase of the investigation and provide an investigation report for NMED review no later than November 30, 2024. NASA submitted the *Response to Approval with Modifications 500 Area Fuel Storage (SWMU 47) Investigation Work Plan: Phase I* on May 22, 2023.
- NASA submitted the *Response to Approval with Modifications for Groundwater Data Representativeness Phase I: Water FLUTE Well Evaluation Abbreviated Investigation Report* on August 17, 2021. NASA submitted the *Abbreviated Investigation Work Plan for Groundwater Data Representativeness, Phase 2: FLUTE Well Evaluation* on November 2, 2021. NASA received NMED's December 1, 2021 fee assessment and invoice for review of the plan and provided the \$7,000 fee for review of the plan on December 14, 2021. NMED approved the plan on August 8, 2022. NASA submitted the *Groundwater Data Representativeness Phase 2: Water FLUTE Well Evaluation Abbreviated Investigation Report* on April 27, 2023. NASA received NMED's May 1, 2023 fee assessment and invoice for review of the report and provided the \$10,000 review fee on June 26, 2023.
- NASA submitted the *Request for Second Extension of Time for NASA White Sands Test Facility (WSTF) 100 Area Wastewater Lagoons Closure (SWMU 2) Investigation Report Response to Disapproval* on April 20, 2023. NMED approved the request on May 23, 2023, extending the due date for submittal of the report to August 31, 2023.
- NASA submitted the *Request for Second Extension of Time for NASA White Sands Test Facility (WSTF) Second Tracking and Data Relay Satellite Ground Terminal (STGT) Wastewater Lagoons Closure (Area of Concern [AOC] 51) Investigation Report Response to Disapproval* on April 20, 2023. NMED approved the request on May 10, 2023, extending the due date for submittal of the investigation report to August 31, 2023.
- NASA submitted the *Request for Third Extension of Time for Submittal of the Completion Report for Monitoring Well BLM-30 Abandonment and Installation of Replacement Monitoring Well BLM-43* on April 12, 2023. NMED approved the request on May 10, 2023, extending the due date for submittal of the well completion report to October 29, 2023.

- NASA submitted the *600 Area Perched Groundwater Investigation Report* on June 29, 2022. NASA received NMED's July 26, 2022 fee assessment for review of the report and provided the \$18,000 review fee on August 9, 2022. NMED approved the report with modifications on June 28, 2023. NMED directed NASA to address five NMED comments and submit a revised investigation report no later than August 31, 2023. NMED also directed NASA to develop and submit a work plan to implement the NASA-proposed recommended actions to NMED no later than November 30, 2023.
- NASA submitted the *NASA WSTF Work Plan for Drilling and Installation of Monitoring Well 600B-001-GW* on August 31, 2021. NASA received NMED's October 14, 2021 fee assessment and invoice for review of the plan and provided the \$2,000 review on October 28, 2021. NMED approved the work plan with modifications on April 25, 2022 and directed NASA to submit a well completion report no later than April 28, 2023. NASA submitted the *Request for Extension of Time for Submittal of the Completion Report for Installation of Monitoring Well 600B-001-GW* on April 12, 2023. NMED approved the request on May 10, 2023, extending the due date for submittal of the report to October 29, 2023.
- NASA submitted the *Work Plan for Drilling and Installation of Monitoring Well 600C-001-GW at the NASA White Sands Test Facility (WSTF)* on August 31, 2021. NASA received NMED's October 14, 2021 fee assessment and invoice for review of the plan and provided the \$2,000 review on October 28, 2021. NMED approved the work plan with modifications on April 25, 2022 and directed NASA to submit a well completion report no later than April 28, 2023. NASA submitted the *Request for Extension of Time for Submittal of the Completion Report for Installation of Monitoring Well 600C-001-GW* on April 12, 2023. NMED approved the request on May 10, 2023, extending the due date for submittal of the report to October 29, 2023.
- NASA submitted the *Accelerated Corrective Measures Work Plan for the NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile)* on September 28, 2021. NASA received NMED's November 18, 2021 fee assessment and invoice for review of the report and provided the \$9,000 fee for review of the report on December 7, 2021. NMED approved the work plan with modifications on February 10, 2023 and directed NASA to address two NMED comments and submit a revised work plan no later than May 31, 2023. NMED also directed NASA to perform the investigation and submit an investigation work plan no later than July 31, 2024. NASA submitted the *Response to Approval with Modifications of the Accelerated Corrective Measures Work Plan for the NASA WSTF SWMU 16 (600 Area BLM Off-Site Soil Pile)* on May 22, 2023.
- NASA submitted the *NASA WSTF Periodic Monitoring Report – Third Quarter 2022* on October 27, 2022. NASA received NMED's December 7, 2022 fee assessment and invoice for review of the report and provided the \$5,000 review fee on December 20, 2022. NMED approved the report on April 24, 2023.
- NASA submitted the Abandonment Report for PFE-4 and PFE-6 on March 9, 2023. NASA received NMED's April 6, 2023 fee assessment and invoice for review of the report and provided the \$4,000 review fee on May 11, 2023.
- NASA submitted the *Abandonment Report for NASA Well BLM-28* on March 14, 2023. NASA received NMED's April 6, 2023 fee assessment and invoice for review of the report and provided the \$2,000 review fee on May 11, 2023.
- NASA submitted the *Reconfiguration Report for NASA Well BW-4* on March 21, 2023. NASA received NMED's April 6, 2023 fee assessment and invoice for review of the report and provided the \$2,000 review fee on May 11, 2023.

- NASA submitted the *Reconfiguration Report for NASA Wells 200-SG-2 and 200-SG-3* on March 21, 2023. NASA received NMED's April 6, 2023 fee assessment and invoice for review of the report and provided the \$4,000 review fee on May 11, 2023.
- NASA submitted the *Abandonment Report for NASA Wells 400-C-118, 400-KV-142, 400-LV-125, BLM-2-482, and NASA 8* on March 30, 2023. NASA received NMED's April 19, 2023 fee assessment and invoice for review of the report and is provided the \$10,000 review fee on May 9, 2023.
- NASA submitted the Abbreviated Drilling Work Plan for the Installation of Monitoring Wells in the WSTF 100 and 600 Areas (Proposed Monitor Wells for PFAS Assessment) on April 13, 2023. NASA received NMED's May 1, 2023 fee assessment and invoice for review of the work plan and provided the \$6,000 review fee on May 12, 2023. NMED approved the work plan with modifications on May 23, 2023. NMED directed NASA to address four NMED comments and submit a revised work plan no later than August 31, 2023. NASA submitted the *Response to Approval with Modifications Abbreviated Drilling Work Plan for the Installation of Monitoring Wells in the WSTF 100 and 600 Areas* on June 12, 2023.
- NASA submitted the *NASA WSTF Periodic Monitoring Report – First Quarter 2023* on April 18, 2023. NASA received NMED's May 1, 2023 fee assessment and invoice for review of the report and provided the \$5,000 review fee on May 11, 2023.
- NASA submitted the *600 Area Perched Groundwater Extraction Pilot Test Interim Status Report – Project Year 10* on April 19, 2023. NASA received NMED's May 1, 2023 fee assessment and invoice for review of the report and provided the \$8,000 review fee on June 15, 2023.
- NASA submitted the *Targeted Mobile Remediation Process Pilot Test Work Plan, Phase 2* on April 25, 2023. NASA received NMED's May 1, 2023 fee assessment and invoice for review of the work plan and provided the \$7,000 review fee on June 26, 2023. NASA submitted the *Correction to Targeted Mobile Remediation Process Pilot Test Work Plan, Phase 2* on June 6, 2023.
- NASA submitted the *NASA WSTF Groundwater Monitoring Plan Update for 2023* on April 27, 2023. NASA received NMED's May 1, 2023 fee assessment and invoice for review of the plan and provided the \$10,000 review fee on May 25, 2023.
- NASA submitted the *NASA WSTF Work Plan for Drilling and Installation of Monitoring Wells 600C-003-GW and 600C-004-GW* on April 27, 2023. NASA received NMED's May 11, 2023 Fee Assessment Work Plan for Abandonment of NASA WSTF Well BLM-1-435 and Replacement with Monitoring Well 600C-003-GW and provided the \$2,000 review fee on June 26, 2023. NASA received NMED's May 11, 2023 *Fee Assessment Drilling Work Plan for Proposed NASA WSTF Well 600C-004-GW* and provided the \$2,000 review fee on June 26, 2023.
- NASA submitted the *Request for Extension of Time for Submittal of the Background Groundwater Study Investigation Report* on May 25, 2023. NMED approved the request on June 28, 2023, extending the due date for submittal of the report to July 31, 2023.